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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,074	04/23/2001	Gerhard Coufal	2001-0462A	9813

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EXAMINER

BALASUBRAMANIAN, VENKATARAMAN

ART UNIT	PAPER NUMBER
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1624

DATE MAILED: 02/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,074

Applicant(s)

COUFAL, GERHARD

Examiner

Venkataraman Balasubramanian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicants' preliminary amendment, which included amendment to claims 3-10, filed on 4/23/2001, is made of record.

Claims 1-11 are pending.

Oath/Declaration

Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Austria on 11/13/1998. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath or declaration does not acknowledge the filing of any foreign application. A new oath or declaration is required in the body of which the present application should be identified by application number and filing date. Applicants should also note that the filing date of 371 of PCT is also missing in the current oath/declaration

Claim Objections

Claims 1-11 are objected to because of the following informalities: An article is missing before the word method in these claims. "A method" is suggested.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 8-9, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kokubo et al. US 3,637,686.

Kokubo et al. teaches a process for recovering melamine from a high pressure and high temperature melamine-forming reaction system, which includes the two-step cooling process wherein melamine melt is first cooled with liquid ammonia or cool ammonia gas and then the solidified melamine is treated with an aqueous solution containing ammonia and isolate crystals of melamine as embraced in the instant claims. See col. 1, lines 71-72 and col. 2, lines 1-72 for the general description of the two step process, especially lines 1-22 and 45-72 wherein the two step process parameters including temperature, pressure, recycling of the aqueous phase etc. are described. See col. 3-4 and 5 for further details of the process including the description of the flow sheet of the process and examples 1-3 on col. 5-6 for enablement of the process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokubo et al. US 3,637,686 in view of Elvers et al. Ullmann's Encyclopedia of Industrial Chemistry, 5th Edition, vol A16,174-179, 1978.

Teachings of Kokubo et al. as discussed in the above 102 rejection is incorporated herein. As noted above, Kokubo et al. teaches a process for recovering melamine from a high pressure and high temperature melamine-forming reaction system, which includes the two-step cooling process as claimed in the instant claims.

Instant claims 10-11 differ from the Kokubo et al. in reciting reuse of recovered ammonia, heat exchange and recovery of residual melamine in the off-gases etc. However, these are, in industrial process of making melamine, standard process practice as evidenced by the secondary reference cited above.

See Elvers et al., pages 176-179 for various industrial processes wherein recycling of ammonia, heat exchange and scrubbing of the off-gases are taught.

Hence, one having ordinary skill in the art at the time of the invention was made would have been motivated to combine the primary and secondary references and employ the process for producing pure melamine including recycling and recovery of

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heat and expect to obtain melamine of desired purity- because he would have expected the analogous reaction conditions provide product of similar purity. It has been held that application of an old process to an analogous material to obtain a result consistent with the teachings of the art would have been obvious to one having ordinary skill.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canzi et al. US 5,721,363 in view of Van Hardeveld US 4,408,046.

Canzi et al. teaches the process for the production of highly pure melamine involving the same steps claimed herein. See col. 1 line 55 to col. 4 line 24 for detailed description of the process which involves scrubbing of the melamine vapor containing mixture with urea melt, reaction of liquid melamine with ammonia for a period of time, followed by transfer of liquid melamine to a cooling process with liquid ammonia with varying temperature and pressure and subsequent depressurizing process to recover highly pure solid melamine with purity 99.8 %. Note col. 2 lines 44 to 51 teaches the residence time of 0 to 8 hrs for liquid melamine and ammonia reaction between 430 °C and melting point of melamine. Note on lines 54-60, Canzi et al. permits variation in the cooling temperature with cooling rate. Note the depressurization sequence can be in any desired sequence. Also see examples 1 to 5 for all process steps and parameters.

Instant claims 1-11 differs from Canzi et al. in reciting specifically subsequent quenching of the solidifying melamine with water or aqueous ammonia and or melamine containing solution or suspension. See entry b) of claim 1. Canzi et al. does not teach subsequent direct cooling by mixing solidifying melamine with aqueous phase.

The secondary reference Van Hardeveld teaches a process of preparing melamine wherein melamine melt is quenched with water or an aqueous solution as required by instant claims entry b. See col. 3, lines 31-68 and col. 3, lines 1-46. Particularly note the wet catch method is taught for both high and low or medium pressure process. See details of the process shown on col. 3, lines 50-68 and col. 4 through col. 5. Note recycling and heat exchange are also taught.

Hence, one having ordinary skill in the art at the time of the invention was made would have been motivated to combine the primary and secondary references and employ the process for producing pure melamine either quenching melamine after optional aging with water or aqueous phase or as a second step treating solidified melamine with water or aqueous phase and expect to obtain melamine of desired purity- because he would have expected the analogous reaction conditions provide product of similar purity. It has been held that application of an old process to an analogous material to obtain a result consistent with the teachings of the art would have been obvious to one having ordinary skill.

See also MPEP 2144.05, regarding optimization within prior art conditions or through routine experimentation.

References cited in the Information Disclosure Statement (paper # 2) are made of record.

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (703)

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305-1674. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 5.30 PM.

The fax phone number for the organization where this application or proceeding is assigned (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

V. Balasubramanian
Venkataraman Balasubramanian

2/8/2002